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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,456

03/16/2004

Gary R. Lauterbach

03226/358001; SUN030251

3249

32615 7590 03/06/2008

OSHA LIANG L.L.P./SUN
1221 MCKINNEY, SUITE 2800
HOUSTON, TX 77010

EXAMINER

JAKOVAC, RYAN J

ART UNIT

PAPER NUMBER

2145

NOTIFICATION DATE

DELIVERY MODE

03/06/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lord@oshaliang.com
hernandez@oshaliang.com
DOCKETING@OSHALIANG.COM

Office Action Summary	Application No. 10/801,456	Applicant(s) LAUTERBACH, GARY R.	
	Examiner RYAN J. JAKOVAC	Art Unit 2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-25 are pending.

Claims 1-25 are rejected.

Specification

1. The disclosure is objected to because of the following informalities: Paragraph [0020] of the specification recites "...the routing protocol is designed to *operating* without requiring..." Appropriate correction is required. Paragraph [0027] of the specification recites "...may query the replicated services on *the that* node received the request prior to responding to the request." Appropriate correction is required

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-25 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. 2004/0049573 to Olmstead et al (hereinafter Olmstead).

Regarding claim 1, Olmstead teaches a system comprising: a first node and a second node located in a single multiprocessor system (Olmstead, Fig. 2, Nodes 1 and 2.); the first node comprising a first router and a first replicated service executing on a first operating system; the second node comprising a second router and a second replicated service executing on a second operating system (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service (i.e. route data messages). Paragraph [0032], Nodes broadcast their presence and listen for other nodes (i.e. route data messages). Paragraph [0001], Duplicated data allows an application on node B to overtake the functions of an application on Node A (i.e. the system provides replicated services). Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).); and a mesh interconnect connecting the first node to the second node using the first router and the second router (Olmstead, Fig. 2, Network connecting nodes 1 and 2.).

Regarding claim 2, Olmstead teaches the system of claim 1, further comprising: a first cache operatively connected to a first node configured to indicate the presence of the first replicated service (Paragraph [0032], Nodes broadcast lists of their policies. their name, and their class. The node stores information (i.e. in a cache) about itself. Paragraph [0016], Nodes save copies of their memory and registry settings.).

Regarding claim 3, Olmstead teaches the system of claim 1, further comprising: a second cache operatively connected to a second node configured to indicate the

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presence of the second replicated service (Paragraph [0032], Nodes broadcast lists of their policies. their name, and their class. The nodes stores information (i.e. in a cache) about themselves. Paragraph [0016], Nodes save copies of their memory and registry settings.).

Regarding claim 4, Olmstead teaches the system of claim 1, wherein the first router comprises a lightweight communications protocol (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0022], Nodes communicate using UDP.).

Regarding claim 5, Olmstead teaches the system of claim 1, wherein the second router comprises a lightweight communications protocol (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0022], Nodes communicate using UDP.).

Regarding claim 6, Olmstead teaches the system of claim 1, wherein the mesh interconnect provides at least two connection paths from the first node to the second node (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013].).

Regarding claim 7, Olmstead teaches the system of claim 1, wherein the first replicated service comprises a first application (Olmstead, Paragraph [0016], Various applications are running on the nodes.).

Regarding claim 8, Olmstead teaches the system of claim 1, wherein the second replicated service comprises a second application (Olmstead, Paragraph [0016], Various applications are running on the nodes.).

Regarding claim 9, Olmstead teaches the system of claim 1, wherein the first node is configured to search for the second replicated service if the first replicated service is unavailable (Olmstead, Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 10, Olmstead teaches the system of claim 9, wherein the first node is configured to search for the second replicated service using at least one selected from the group consisting of a broadcast message and a multicast message (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 11, Olmstead teaches the system of claim 9, wherein the first router is configured to route data to a node executing the second replicated service (Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 12, Olmstead teaches the system of claim 1, wherein the second node is configured to search for the first replicated service if the second replicated service is unavailable (Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 13, Olmstead teaches the system of claim 11, wherein the second node is configured to search for the second replicated service using at least one selected from the group consisting of a broadcast message and a multicast message (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 14, Olmstead teaches the system of claim 13, wherein the second router is configured to route data to a node executing the first replicated service (Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 15, Olmstead teaches the system of claim 1, wherein the first router and the second router implement a master-less routing policy (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0032], Nodes broadcast messages to all the other nodes.).

Regarding claim 16, Olmstead teaches a system, comprising: a first subset and a second subset located in a single multiprocessor system; the first subset comprising a first plurality of nodes and the second subset comprising a second plurality of nodes (Olmstead, Fig. 4, Nodes 1, 2, Nodes 3 to N, Network 1 and Network 2.), wherein each of the first plurality of nodes and each of the second plurality of nodes comprises: a router, and a replicated service executing on an operating system (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service (i.e. route data messages). Paragraph [0032], Nodes broadcast their presence and listen for other nodes (i.e. route data messages). Paragraph [0001], Duplicated data allows an application on node B to overtake the functions of an application on Node A (i.e. the system provides replicated services). Paragraph [0002], Node failures are detected and the service provided is replaced by a backup node (i.e. replicated service).); a first mesh

interconnect connecting the first subset to the second subset (Olmstead, Fig. 4, Network); a second mesh interconnect connecting each node in the first plurality of nodes to every other node in the first plurality of nodes (Olmstead, Fig. 4, Redundant network); and a third mesh interconnect connecting each node in the second plurality of nodes to every other node in the second plurality of nodes (Olmstead, Fig. 4, Redundant network. Paragraph [0021], Nodes communicate directly.).

Regarding claim 17, Olmstead teaches the system of claim 16, wherein the each of the nodes in the first plurality of nodes executes a different operating system than every other nodes in the first plurality of nodes (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems.).

Regarding claim 18, Olmstead teaches the system of claim 16, wherein the each of the nodes in the second plurality of nodes executes a different operating system than every other nodes in the second plurality of nodes (Olmstead, Paragraph [0021], Message routing and delivery function across nodes utilizing different operating systems. Fig. 4, Plurality of nodes.).

Regarding claim 19, Olmstead teaches the system of claim 16, wherein one of the first plurality of nodes is configured to initially search for the replicated service in only the first subset (Abstract, The distributed messaging system allows the nodes to

communicate and detect (i.e. search for) each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022].).

Regarding claim 20, Olmstead teaches the system of claim 19, wherein the one of the first plurality of nodes is further configured to search the second subset for the replicated service if the replicated service is not found in the first subset (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).)

Regarding claim 21, Olmstead teaches the system of claim 19, wherein the one of the first plurality of nodes searches using at least one selected from the group consisting of a broadcast message and a multicast message (Abstract, The distributed messaging system allows the nodes to communicate with one another and monitor each other. The messaging system uses broadcast and multicast messages, see paragraphs [0011-0014], [0017], and [0022]. Paragraph [0002], Node failures are detected (i.e. searched for) and the service provided is replaced by a backup node (i.e. replicated service).).

Regarding claim 22, Olmstead teaches the system of claim 16, wherein the first mesh interconnect provides at least two communication paths from the first subset to the second subset (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013]. See also Fig. 4, Network 1, Network 2.).

Regarding claim 23, Olmstead teaches the system of claim 16, wherein the second mesh interconnect provides at least two communication paths from each node of the first plurality of nodes to the every other node in the first plurality of nodes (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013]. See also Fig. 4, Network 1, Network 2.).

Regarding claim 22, Olmstead teaches the system of claim 16, wherein the third mesh interconnect provides at least two communication paths from each node of the second plurality of nodes to the every other node in the second plurality of nodes (Olmstead, Paragraph [0021], Nodes directly communicate. Paragraph [0032-0033], Nodes send a broadcast message to all nodes. Messages are also passed from one node to the other, see paragraph [0013]. See also Fig. 4, Network 1, Network 2.).

Regarding claim 25, Olmstead teaches the system of claim 16, wherein the router implements a master-less routing policy (Olmstead, Paragraph [0011-0014], Nodes communicate using a distributed messaging service. Paragraph [0032], Nodes broadcast messages to all the other nodes.).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 2006/0005198 to Uchishiba et al discloses a system for managing resources in a partitioned computer system where each partition operates a separate operating system in each the partitions. U.S. 2005/0132362 to Knauerhase et al discloses a system for managing and re-allocating resources to virtual machines based on the activity of the virtual machines. U.S. 6,633,916 to Kauffman discloses a method of handling resources in a multi-processor computer system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN J. JAKOVAC whose telephone number is (571)270-5003. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason D. Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RJ

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145